SERVICE

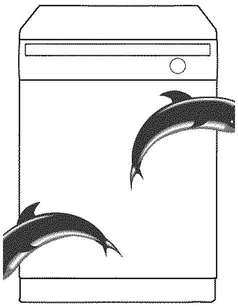
Whirlpool Europe
Customer Services

ADP 931/1 WH

Whirlpool

Service Manual

Dishwasher
ADP 931/1 WH



Model ADP 931/1 WH
Version 8542 931 01110

Date: 07.03.1997 Subject to modification
Document-No.: 4812 718 12332

Technical data

Dimension

Height	85,0	cm
Width	59,5	cm
Depth	60,0	cm
Weight	56,7	kg

Decor plate

Thicknes max.	4	mm
Width	584	mm
Height	595	mm
Weight max.	1,8	kg

Specification (normal program)

Capacity	12	standard setting pl.
Water consumption	22	l
Energy consumption	1,5	kWh
Program time	~ 82	min
Noise level	52	db (A)
Detergent consumption	25	ml
Salt consumption by 21˚ dh	<20	g
Hot water connect. up to	60	˚C

Alarms

Water leakage

Program information

Start indicator
Net indicator

Volume (normal)

Water	**Volume**	**Level**
Regeneration	0,3 l	15 mm
Back rinse 3x	1,0 l	68 mm
Prewash	5,0 l	125 mm
Main wash	6,0 l	129 mm
Intermediate rinse 1	5,0 l	125 mm
Clear rinse	5,0 l	125 mm
Safety / overflow	8,5 l	141 mm

Measuring the level

Remove the coarse sieve, put in a measuring meter into the sump, measure the hight of the water level.

Detergent max.

Pre-wash	10	cm^3
Main-wash	45	cm^3
Rinse aid	125	cm^3
5 Dosage steps	1 - 5	cm^3
Water softener		
Saltcontainer	2	kg
Resin container	900	cm^3
Regeneration dosage	300	cm^3

Water pressure

Inlet pressure	0,3-10	bar
Spray pump pressure	0,4	bar

Rotations

Spray pump motor	2800	RPM
Drain pump motor	2800	RPM
Spray arm lower	~ 30	RPM
Spray arm upper	~ 35	RPM
Ceiling rotor	~ 60	RPM

Flow rates / Inlet volume

Flow meter (at 0,3 bar = quantity 1,1 l/min)	208	Imp/l
Spray pump	~ 70	l/min
Drain pump	16	l/min
Pump height max.	1,3	m
Valve of sieve	8,0	l/min.
Inlet valve	4,5	l/min
Spray arm lower	33	l/min
Sprayarm upper	30	l/min
Ceiling rotor / shower	8	l/min

Water distribution

Fine sieve	100	%
Self cleaning micro filter	~ 32	%

Technical data

Electrical data

Base data

Voltage	230	V
Frequency	50	Hz
Total power	~ 3	kW
Fuse	16	A

Motor

Spray pump motor

Voltage	220/230	V
Power consumption	~190	W
HI	69	Ω
HA	36,2	Ω
Capacitor	4	µ F

Drain pump motor

Voltage	220/240	V
Resistance	146	Ω

Heating

1 Element system

Voltage	230	V
Power consumption	2800	W
Resistance	8,6 - 9,5	Ω
Heating speed	~ 2,5	˚C/min
Temperature on surface	~ 115	˚C
Double safety thermostat self reset	85	˚C

Potentiometer

Position 0	2,0	kΩ
Position 1	4,3	kΩ
Position 2	9,0	kΩ
Position 3	13,3	kΩ
Position 4	17,5	kΩ
Position 5	22,2	kΩ
Position 6	24,2	kΩ

Water valves

Inlet valve

Voltage	220/240	V
Frequency	50/60	Hz
Resistance	3,67	kΩ

Valve of sieve

Voltage	220	V
Frequency	50/60	Hz
Resistance	3,83	kΩ

Regenerating valve

Voltage	220/240	V
Frequency	50/60	Hz
Resistance	3,13	kΩ

Coil of dispenser

Voltage	220/240	V
Frequency	50/60	Hz
Resistance	1,43	kΩ

Relay

Heating relay

Voltage	220/240	V
Frequency	50/60	Hz
Resistance	5,5	kΩ

Reedcontact

Flowmeter

NTC

15 ˚C	75 kΩ
20 ˚C	62 kΩ
30 ˚C	43 kΩ
40 ˚C	28 kΩ
50 ˚C	19 kΩ
60 ˚C	13 kΩ
70 ˚C	9 kΩ
80 ˚C	6 kΩ
85 ˚C	5 kΩ

Technical data

Regeneration

Volume	300	cm^3
Position 0		
after wash cycles	--	
water hardness	0-5	°dh
	0-0,9	mmol/l
	0-9	°Fh
Position 1		
after wash cycles	6-8	
water hardness	6-10	°dh
	1-1,8	mmol/l
	10-18	°Fh
Position 2		
after wash cycles	5-6	
water hardness	11-15	°dh
	1,9-2,7	mmol/l
	19-27	°Fh
Position 3		
after wash cycles	4	
water hardness	16-21	°dh
	2,8-3,7	mmol/l
	28.37	°Fh
Position 4		
after wash cycles	3	
water hardness	22-28	°dh
	3,8-5,0	mmol/l
	38-50	°Fh
Position 5		
after wash cycles	2	
water hardness	29-35	°dh
	5,1-6,3	mmol/l
	51-63	°Fh
Position 6		
after wash cycles	1	
water hardness	36-60	°dh
	6,4-10,7	mmol/l
	64-107	°Fh
Salt consumption		
for regeneration	77	g
Number of cycles		
with 2 kg salt	26	

Spare part list

Model	**ADP 931/1 WH**
Service No.	**854293101110**
Version	**854293101110**

Pos. No.	12NC Code	Description
003 0	**4812 440 19382**	Traverse
004 0	**4812 440 18952**	Drip tray assy
004 1	**4812 401 18402**	Holder
011 0	**4812 505 18357**	Foot short
022 0	**4812 440 18951**	Side panel left
022 1	**4812 440 18949**	Side panel right
022 2	**4812 440 18953**	Spacer
024 0	**4812 440 18948**	Panel, rear to 97/07
024 0	**4812 440 19401**	Panel, rear from 97/07
030 0	**4812 310 18303**	Table top WH
034 0	**4812 404 78237**	Spacer
034 1	**4812 404 78236**	Fastener
040 1	**4812 417 18774**	Hinge left
040 2	**4812 417 18773**	Hinge right
044 0	**4812 492 38358**	Spring f.door
044 1	**4812 492 38364**	Spring f.cap
047 0	**4812 404 48591**	Brake f.door
047 1	**4812 401 18397**	Band,brake
047 2	**4812 404 68023**	Hook
053 0	**4812 440 88107**	Plinth WH
061 0	**4812 466 88461**	Counter weight
103 0	**4812 440 18978**	Door outer
120 0	**4812 440 18961**	Door,inner
120 1	**4812 440 18955**	Batten
130 0	**4812 417 58361**	Tilt lock
131 0	**4812 401 18416**	Hook lock
191 0	**4812 466 68534**	Gasket door
192 0	**4812 466 68467**	Gasket, door lower
200 0	**4812 418 18175**	Container
241 0	**4812 458 18276**	Basket upper straight
241 1	**4812 458 18324**	Holder cups rigth white
241 3	**4812 528 88068**	Wheel,basket upper (set)
241 8	**4812 466 68482**	Spacer cap set
242 0	**4812 458 18274**	Basket lower cpl.
242 1	**4812 528 88069**	Wheel,basket lower
242 2	**4812 458 18262**	Plate,support f.basket lower
242 3	**4812 458 18275**	Plate,support f.basket lower
243 0	**4812 458 18272**	Basket cutlery
261 0	**4819 462 38271**	Rail telescope, inner
261 1	**4819 404 48819**	Cap rail
261 2	**4812 462 78995**	Cap rail ahead
263 0	**4819 520 18013**	Ball cage cpl.
263 1	**4812 520 48001**	Ball Niro 8 D
265 0	**4812 404 48599**	Basket adjustm. cpl.
265 2	**4812 404 48589**	Grip basket adjustment
301 0	**4812 453 79538**	Control panel WH
303 1	**4812 417 58364**	Child-prooflock cpl. WH
305 0	**4812 440 18964**	Batten WH
322 0	**4812 453 79865**	Insert panel WH
331 0	**4812 413 58863**	Knob program cpl. WH
332 0	**4812 410 28528**	Push button cap WH
351 1	**4812 381 28021**	Guide,light
400 0	**4812 361 58119**	Motor + spraypump cpl.220/240V
405 0	**4812 360 18358**	Spray pump
405 1	**4819 515 28158**	Gasket

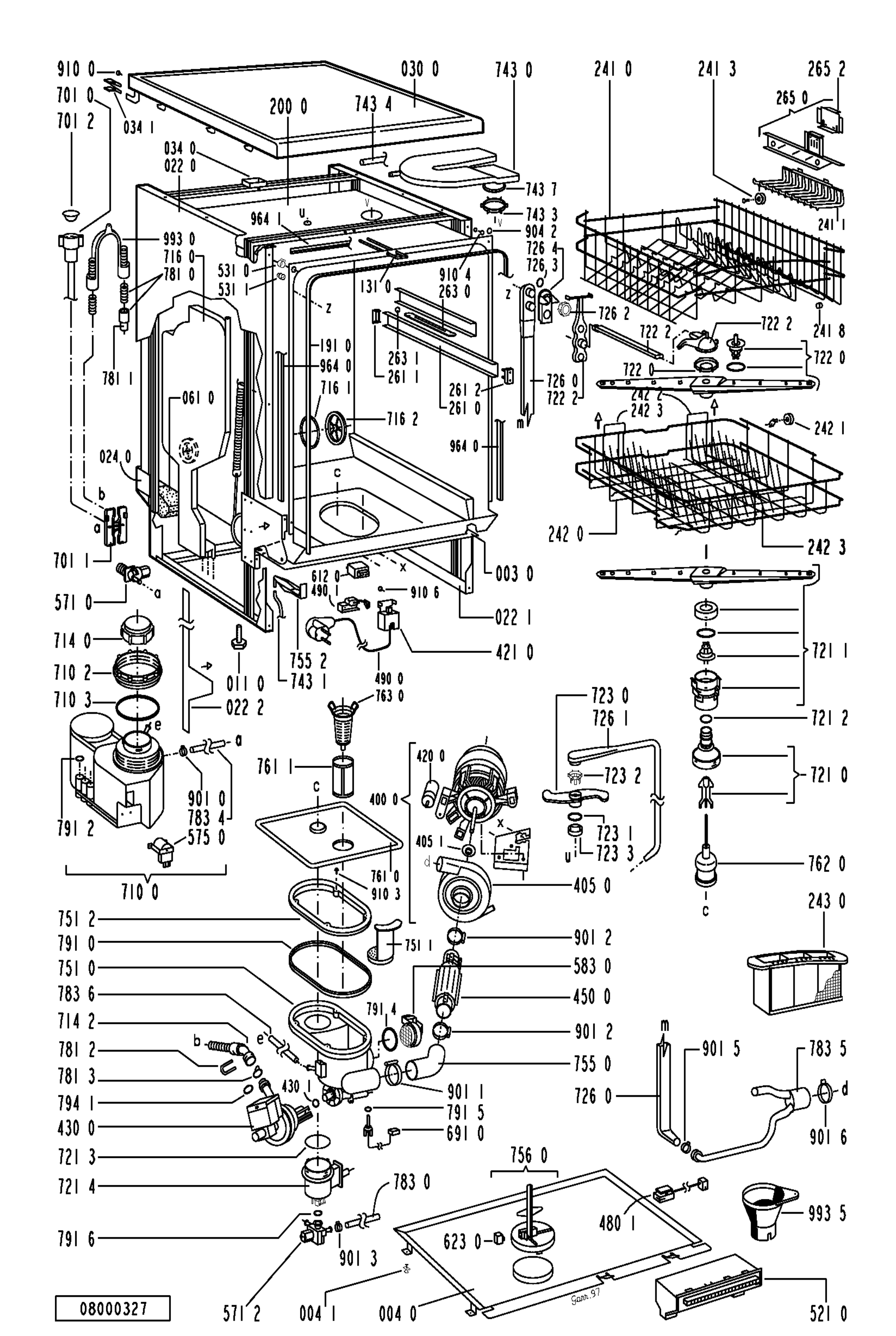
Pos. No.	12NC Code	Description
420 0	**4812 121 18132**	Capacitor
421 0	**4812 121 18156**	Interf.filter from 97/07
430 0	**4812 360 18357**	Pump,draining
430 1	**4812 466 68506**	Ring,sealing
450 0	**4812 259 28653**	Heating element
480 0	**4812 321 28364**	Cable harness set
480 1	**4812 321 28371**	Cable
480 3	**4812 401 18418**	Protector f.wiring
490 0	**4812 321 18026**	Cable,mains 3m to 97/07
490 0	**4819 321 18136**	Cable,mains 2m from 97/07
490 1	**4812 321 28367**	Strain relief from 97/07
521 0	**4812 214 78171**	Control board (CB)
531 0	**4812 273 18054**	Switch waterhardness
531 1	**4812 273 18053**	Wheel,fingertip
571 0	**4812 281 28365**	Valve inlet
571 2	**4812 281 28362**	Sieve valve
575 0	**4812 281 28361**	Regen.valve
583 0	**4812 271 28355**	Switch diaphragm
612 0	**4812 280 58025**	Relay heating
620 0	**4812 218 38035**	User board (UB)
623 0	**4812 271 38356**	Microswitch
633 0	**4812 271 38355**	Microswitch
680 0	**4812 418 68133**	Combidosage
680 1	**4812 466 68495**	Gasket
681 1	**4812 466 68497**	Gasket
681 2	**4812 440 18975**	Flap
682 0	**4812 466 68496**	Gasket
691 0	**4812 282 68012**	Feeler NTC
701 0	**4812 530 28081**	Hose, inlet 3/8Z cpl. 5m
701 0	**4812 530 28082**	Hose, inlet 3/8Z cpl. 3m
701 0	**4819 530 28283**	Hose, inlet 2m
701 1	**4812 310 18302**	Yoke
701 2	**4822 480 50159**	Sieve inlet
710 0	**4812 418 68128**	Monoblock
710 2	**4819 310 38536**	Nut threaded ring set
710 3	**4819 466 69562**	Gasket set
714 0	**4812 462 79643**	Threaded cap
714 2	**4812 440 18963**	Cabinet non-return flap
716 0	**4812 418 68147**	Reg.dosage
716 1	**4812 466 68475**	Gasket
716 2	**4812 462 78994**	Cover
721 0	**4812 360 68043**	Hub lower cpl.
721 1	**4812 360 68047**	Arm,spray lower cpl.
721 2	**4812 466 68491**	Gasket 25x2,3B
721 3	**4812 466 68489**	Gasket 76x2,5
721 4	**4812 418 18176**	Cabinet
722 0	**4812 360 68044**	Arm,spray upper
722 2	**4812 360 68056**	Hub upper straight cpl.
723 0	**4812 360 68049**	Arm,spray
723 1	**4812 466 68483**	Gasket
723 2	**4812 404 48597**	Clip,fix sprayarm
723 3	**4812 505 18362**	Connect,gaspipe
726 0	**4812 530 28786**	Tube
726 1	**4812 530 28787**	Tube
726 2	**4812 505 18358**	Nut

Spare part list

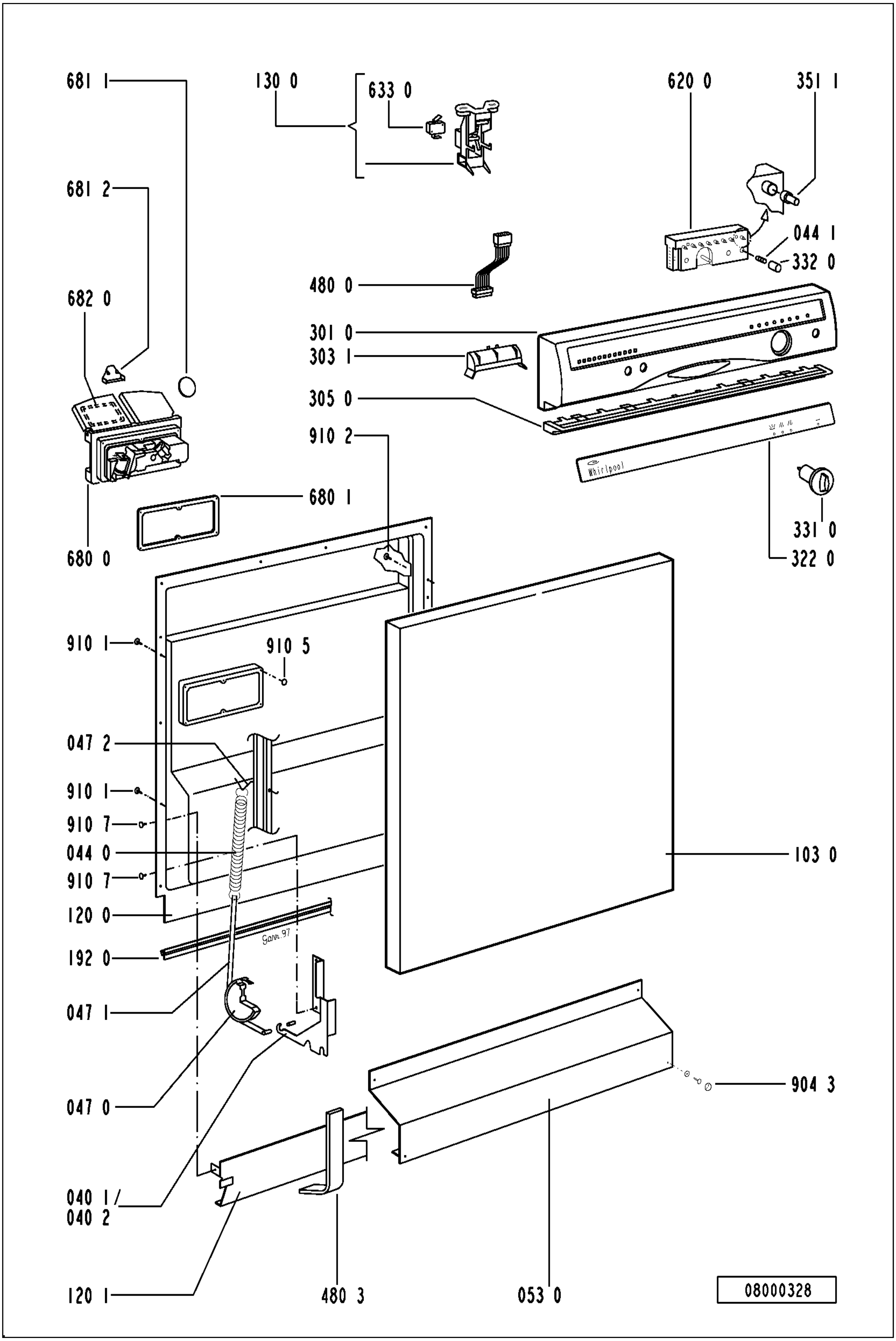
Model	**ADP 931/1 WH**
Service No.	**854293101110**
Version	**854293101110**

Pos. No.	12NC Code	Description
726 3	**4812 466 68512**	Gasket
726 4	**4812 462 79633**	Centering
743 0	**4812 511 48171**	Capacitor
743 1	**4812 530 28102**	Hose, inlet
743 3	**4812 505 18364**	Nut
743 4	**4812 530 28807**	Hose 9x1,5x270+10
743 7	**4812 466 68514**	Gasket
751 0	**4812 418 18169**	Water collector
751 1	**4812 418 18171**	Water guide
751 2	**4812 440 18954**	Fastener frame
755 0	**4812 530 28785**	Bend
755 2	**4812 530 48148**	Tray,leak
756 0	**4812 360 58099**	Floater
761 0	**4812 480 58061**	Sieve fine
761 1	**4812 480 58072**	Sieve insert
762 0	**4812 480 58065**	Microfilter
763 0	**4812 480 58057**	Sieve coarse
781 0	**4812 530 28737**	Hose,draining
781 1	**4819 530 28286**	Sleeve hose
781 2	**4819 492 68405**	Clip f.non-return valve
781 3	**4812 281 28364**	Flap non-return
783 0	**4812 530 28792**	Hose 11,5x3x200
783 4	**4812 530 28793**	Hose 10x3x230
783 5	**4812 530 28797**	Distributor
783 6	**4812 530 28796**	Hose 10x3x180+10
791 0	**4812 532 68067**	Gasket
791 2	**4812 530 58093**	Gasket
791 4	**4812 466 68503**	Gasket
791 5	**4812 466 68504**	Gasket
791 6	**4812 466 68505**	Gasket
794 1	**4819 530 58032**	Gasket 20x2,5
901 0	**4812 401 18191**	Strap 017,8
901 1	**4812 401 18396**	Strap
901 2	**4812 401 18401**	Strap
901 3	**4812 401 18404**	Strap 019,8-708Z
901 5	**4812 401 18406**	Strap 028,6-708Z
901 6	**4812 401 18408**	Strap 038,1-708Z
902 0	**4812 401 18195**	Clip
904 2	**4812 462 79635**	Cover WH 3,5x5
904 3	**4812 462 79636**	Cover WH 3,5x4
910 0	**4812 502 18384**	Screw 4x35-H
910 1	**4812 502 18019**	Screw
910 2	**4812 502 18363**	Screw 4,0x12-H
910 3	**4812 502 18364**	Screw 5x20-TORX
910 4	**4812 502 18386**	Screw M3,5x8 TORX T15
910 5	**4812 502 18367**	Screw 3,5x8-TORX T15
910 6	**4812 502 18369**	Screw A2F M4x6
910 7	**4812 502 38132**	Screw DIN 965
964 0	**4812 466 68536**	Gasket housing ri/le
964 1	**4812 466 68469**	Gasket housing upper
993 0	**4812 530 48149**	Bow
993 5	**4822 532 80216**	Funnel salt

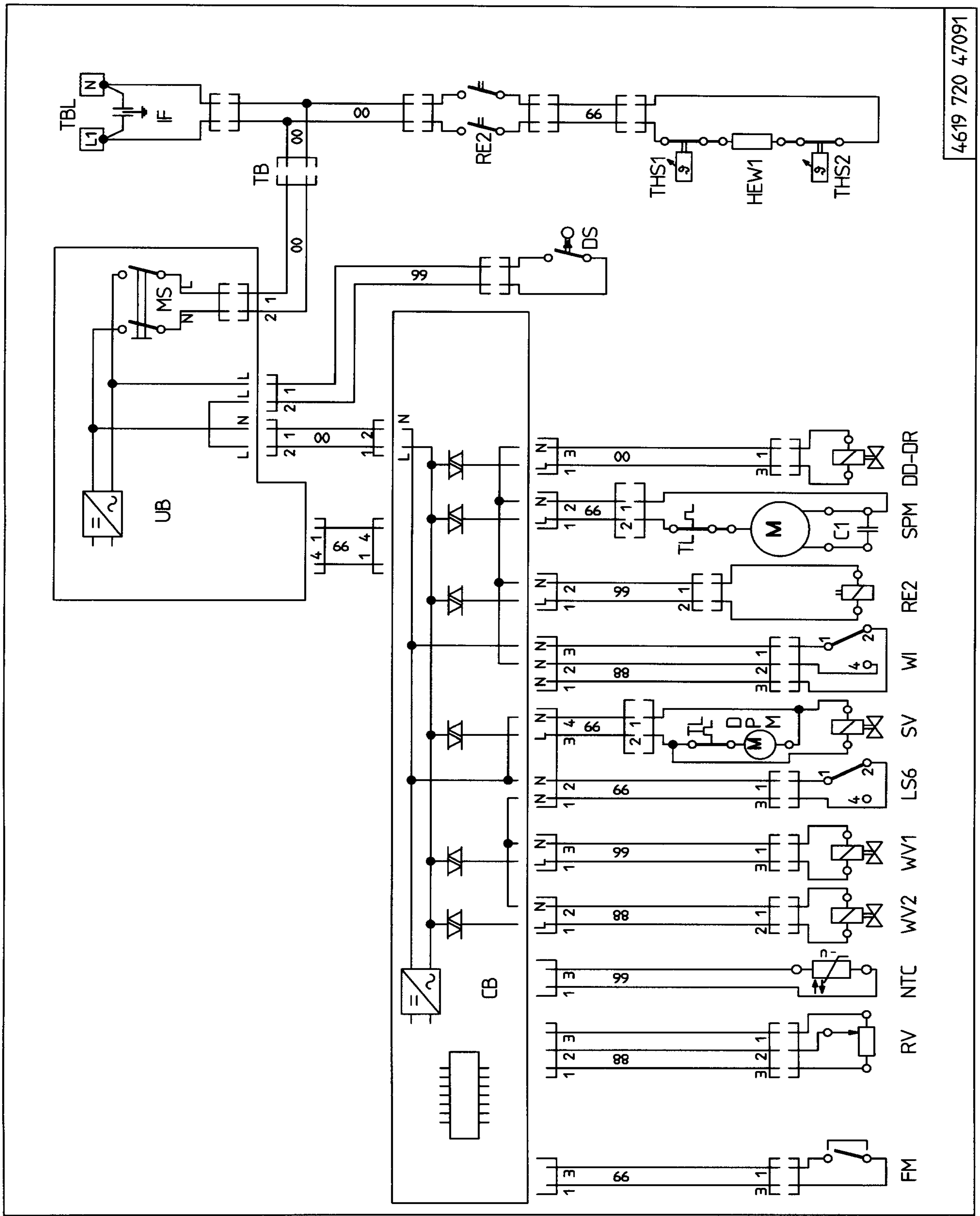
Exploded view



Exploded view



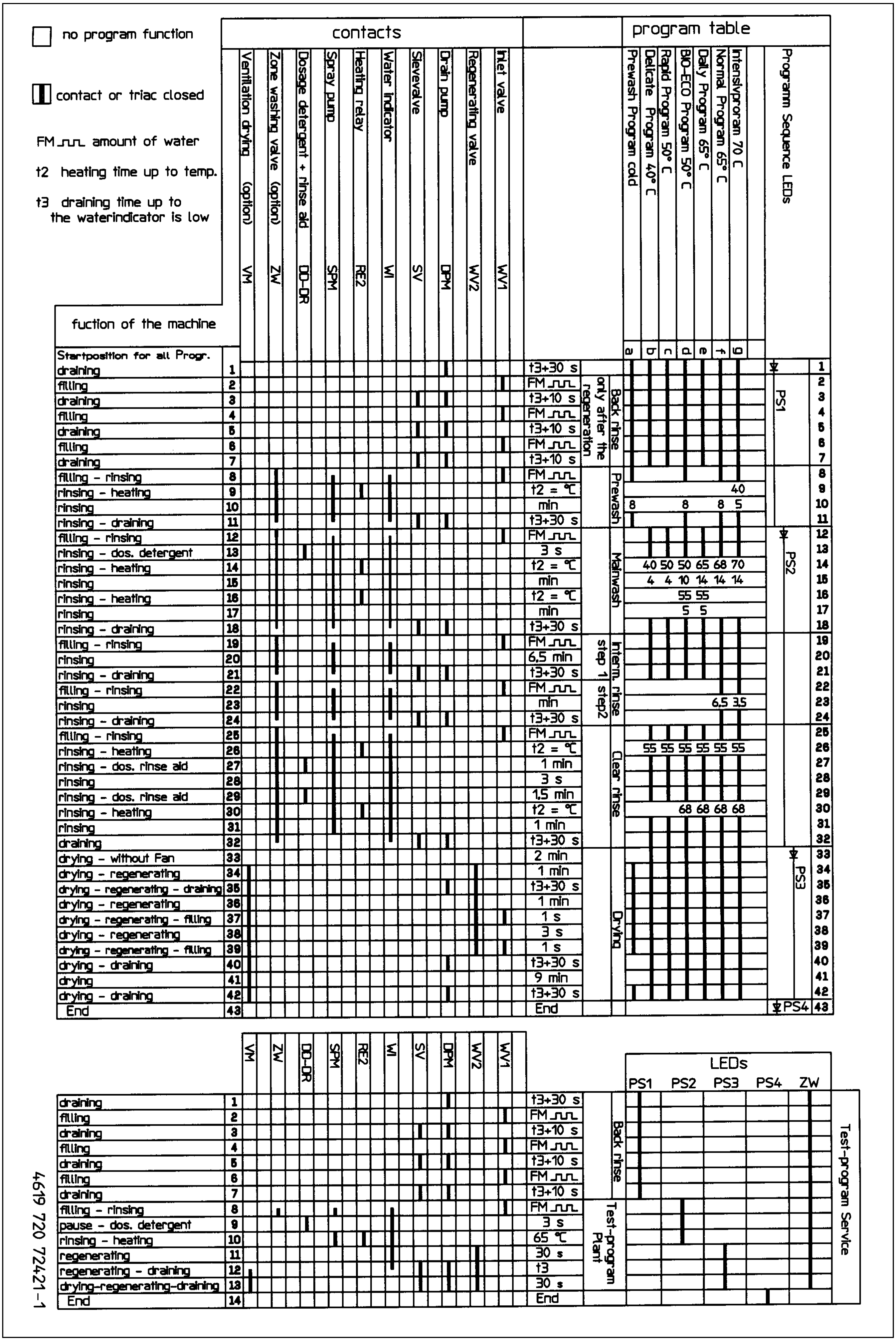
Circuit diagram



C1	Capacitor
CB	Control board
DB	Display board
DPM	Drain pump motor
DD	Cleaning agent dosage
DR	Final rinse dosage
DS	Door switch
EM	Electro magnet
FM	Flow meter
HEW	Heating
IF	Interference filter
LS6	Water leakage switch
L	Line
MS	Main switch
NTC	Thermostat
N	Neutral
RV	Water hardness switch
RE2	Heating relay
RR2	Reed relay salt
RR3	Reed relay rinsaid
SAB	Sprayarm blocked
SV	Sleve valve
SPM	Sprayarm motor
THS	Safety thermostat
TB	Plug coupler
TBL	Power supply terminal
TL	Winding protective contact
UB	User board
VM	Fan ventilator
WV1	Water inlet valve
WV2	Water regenerating valve
WI	Water indicator
ZW	Zone washing

00	black
66	blue
88	grey
99	white

Program diagram



Text / Legend

Test procedure for SERVICE-TEST-PROGRAM DOLPHIN dishwashers

1. Start the test program.
   If there is a defective component indicated, open the plinth and take out the control board.

2. Check the component.
   Unplug the indicated component from the control board and check it by using an Ohm-measure equipment.
   If the ohms are correct, check the cables to the component and check the component itself.

3. Check the control board.

4. Only if there is no reaction when pushing a push button or turning the rotary switch, then test with the test points.

5. At the end of the repair start the test program again to see that the failure is solved.

More details: s. chapter test program for service.

Attention:

First unplug the appliance, then set the connection clamps of the volt measurement on the test points.
Danger for short circuit.
More details see chapter test point.

Short dircuits on components can damage the control board.
If electronic boards are wet, do not switch the appliance on.

The failures F1 NTC break
F2 water leakage
F9 continuous water inlet
are checked and indicated immediately after start of the program.
Therefore these failures have to be solved before starting the test program.

When these failures are not solved, the test program does not run.

The electrical components get their voltage via triac from the control board. For testing the volume of voltage the volt meter must be parallel to the component (the component must be plugged on). If the component is plugged off, then on the plug the measured voltage is reduced.

4812 718 98009-1

Text / Legend

Indication of failure and alarms

Whirlpool and Ignis appliances and also Bauknecht Flat panel appliances

failure	failure no.	indication	indication within test program
NTC - break	F1	start LED flashes	PS1 flashes
water leakage failure	F2	start LED flashes	PS2 flashes
heating system failure	F3	start LED flashes	PS3 flashes
draining failure	F4	start LED flashes	PS4 flashes
spray arm blocked	F5	PS1 flashes	PS1 + PS4 flash
water tap closed	F6	start LED flashes	PS2 + PS4 flash
flow meter failure	F7	start LED flashes	PS3 + PS4 flash
water level failure	F8	start LED flashes	PS2 + PS3 flash
water inlet continuously on	F9	start LED flashes	PS1 + PS3 flash
salt		alarm LED on	alarm LED on
rinse agent		alarm LED on	alarm LED on

Passive test program

Start

PS1 - PS4
flashes in rhytm.

option LED lights
(if chosen)

chosen program LED
lights

finish passive
test program
by starting active
test program

The passive test program shows the stored failure.
If there is no failure the passive test program runs normal.

Start procedure

1.Switch off the appliance
2. Push start button and hold it and
select program BIO-ECO 50 °C (d) or Rapid (c)
3. Finish pushing the start button when the start LED flashes
4. Failure indication

Program sequence LED

PS1	1. LED	backrinsing prewash	
PS2	2. LED	mainwash intermediate rinse final rinse	
PS3	3. LED	drying	
PS4	4. LED end	goes off if any button is pushed	goes off after 30 min. progr. is finished

Text / Legend

Indication of failure and alarms

Bauknecht appliances low and high version

failure	failure no.	indication without digits	indication with digits	indication within test program
NTC - break	F1	start LED flashes	F1 at digits	PS1 flashes F1 at digits
water leakage failure	F2	start LED flashes and alarm LED	alarm LED flashes	PS2 flashes F2 at digits
heating system failure	F3	start LED flashes	F3 at digits	PS3 flashes F3 at digits
draining failure	F4	start LED flashes	F4 at digits	PS4 flashes F4 at digits
spray arm blocked	F5	PS1 flashes	alarm LED flashes	PS1 + PS4 flash F5 at digits
water tap closed	F6	start LED flashes	alarm LED flashes	PS2 + PS4 flash F6 at digits
flow meter failure	F7	start LED flashes	F7 at digits	PS3 + PS4 flash F7 at digits
water level failure	F8	start LED flashes	F8 at digits	PS2 + PS3 flash F8 at digits
water inlet continuously on	F9	start LED flashes	alarm LED flashes (water leakage)	PS1 + PS3 flash F2 at digits
salt		alarm LED on	alarm LED on	alarm LED on
rinse agent		alarm LED on	alarm LED on	alarm LED on

Passive test program

With the passive test program all LEDs and buttons can be tested.
If there is no failure, the passive test program runs normal.

Start
→ PS1 - PS4 flashes in rhytm.
→ option LED lights (if chosen)
→ chosen program LED lights
→ finish passive test program by starting active test program

Start procedure

ROTARY VERSION

1.Switch off the appliance
2.Select program BIO/ECO (d)
3.Push start button and hold it and switch on the main switch
4.When start LED flashes, . then release start button

PUSH BUTTON VERSION

1.Switch off the appliance
2.Push start button hold it and switch on the main switch
3.Release the start button when the start LED flashes
4.Select program BIO/ECO (d)

Program sequence LED

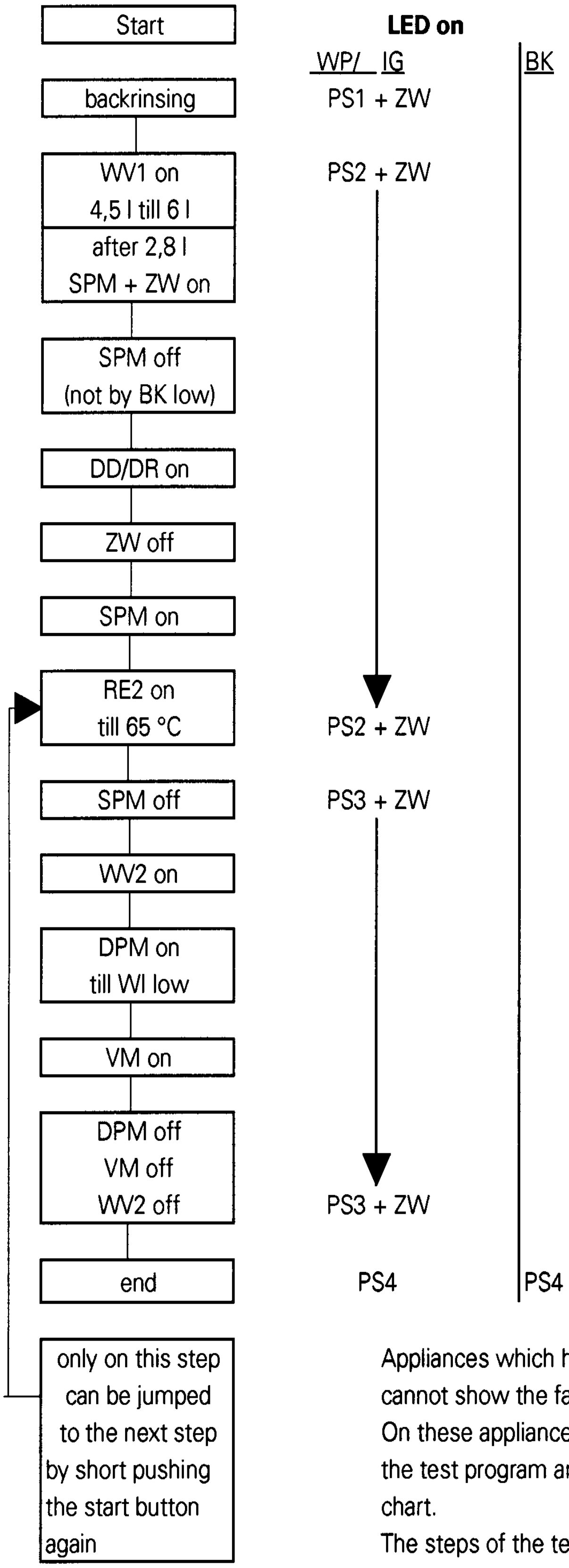
PS1	1. LED	backrinsing prewash	
PS2	2. LED	main wash intermediate rinse final rinse	
PS3	3. LED	drying	
PS4	4. LED end	goes off if any button is pushed	goes off after 30 min. progr. is fin.

Text / Legend

Active test program

All appliances Bauknecht, Whirlpool and Ignis

Test procedure
1. passive test program O. K.?
   no: repair failure
   yes: push start button shorter than 3 sec.
2. active test program starts



Remarks

The active test program runs to the failure position and stops or, if there is no failure, to the end.

To leave the test progr. push start button for longer than 3 sec.

Too less salt or too less rinse aid leads not to the stop of the appliance.

The function of the zone wash valve can only be checked optically.
A defect leads to an instable SPM pressure.

The function of the sieve valve can only be checked optically.
In case of defect the housing of the selfcleaning microfilter is not empty on the end of the program.

Appliances which have no program sequence LED/digits cannot show the failure.
On these appliances the failure can only be found by starting the test program and following this by using the program chart.
The steps of the test program are as normal.

The failure position is indicated:
On WP and IG appliances by switching off the flashing start LED.
On BK appliances the flashing start LED lights continuously.

Text / Legend

Handling of failures

F1. NTC break

- temperature out of the normal value (-10 degr. till +85 degr. C)

Possible failures
- heating higher than +85 degr. C
- NTC defective
- dishwasher is frozen, less than -10 degr. C

F2. water leakage

- water is in the drip tray

floater (LS6) switches off the WV1 and the electronic switches on the DPM till WI reports empty

F3. heating system defective

- too less heating speed (lower 1,5 degr. in 20 min.)
- heating (HEW) defective
- relais (RE2) defective

F4. draining failure

drain pump starts and after 4 min. the WI detects not empty
- drain pump (DPM) defective
- syphon closed
- control board (CB) defective
- water indicator (WI) defective (is switched on)

F5. spray arm blocked (leads not to stop the appliance)

SAB sensor sends less than 10 impulses/min.
- spray arm blocked or not fixed well
- selfcleaning microfilter blocked
- spray pump (SPM) does not work well
- SAB sensor defective

Text / Legend

F6. water tap closed

water valve (WV1) is switched on but flow meter (FM) sends no impulses (less than 10 imp. in 10 sec.) and the water indicator (WI) is at low level
- water tap closed
- water inlet hose blocked
- water inlet valve (WV1) defective
- flow meter (FM) defective (leads to FM failure)

F7. flow meter failure

water inlet valve is switched on and the water indicator (WI) is switched on high level
- flow meter (FM) sends to less impulses
  (less than 10 imp. in 10 sec.)
- water tap closed
- water inlet hose blocked
- water inlet valve (WV1) defective
- flow meter (FM) defective
- water indicator (WI) is defective

F8. water level failure

failure monitored during spray pump is on and the water indicator switches back more than 10 times in 2 min.

- water indicator defective
- sieve blocked
- water strongly foams
- pot has turned off and is filled with spray water
- no stable spray pump (SPM) working

F9. continuous water inlet

water inlet valve (WV1) is switched off, water indicator (WI) on,
flow meter (FM) sends impulses more than 10 imp. in 10 sec.
- water inlet valve (WV1) mechanically not closed
- triac (CB) for WV1 is closed

reaction: interval 30 sec. draining / 20 sec. tracing

For salt, rinse aid, zone wash valve, sieve valve failure see active test program.

Text / Legend

			Programs												
BK	**IG**	**WH**	**a**	**b**	**c**	**d BK**	**d WI**	**e BK**	**e WI**	**f**	**g**	**h**	**i**	**j**	**k**
A3			X			X				X					
	A3	**A3**	X		X		⊗			X					
A4			X			X		X		X					
	A4	**A4**	X		X		⊗		X	X					
	A5	**A5**	X		X		⊗		X	X	X				
	A6	**A6**	X		X		X		X	X	X				
	A7		X	X	X		X		X	X	X				
B4			X			X		X		X					
B5			X			X		X		X	X				
		B5	X		X				X	X	X				
B6			X		X	X		X		X	X				
		B6	X		X		X		X	X	X				
		B7	X	X	X		X		X	X	X				
C5			X			X		X		X	X				
C6			X		X	X		X		X	X				
C7			X	X	X	X		X		X	X				
C11			X	X	X	X		X		X	X	X	X	X	X

⊗ only for IG instead of program c

a prewash
b glass 40°C
c rapid 50°C
d bio/eco 50°C (BK without prewash, WH-IG with cold prewash)
e bio/normal 50°C BK (with cold prewash)
e daily 65°C (only WH-IG without prewash)
f normal 65°C (with cold prewash)
g intensive 70°C (with prewash 40°C)
h -d- bio/eco 50°C (BK without prewash) + e-button
i -e- bio/normal 50°C BK (with cold prewash) + e-button
j -f- normal 65°C (with cold prewash) + e-button
k -g- intensive 70°C (with prewash 40°C) + e-button

After starting a program this program is locked. That means neigther by unplugging/switching of the appliance nor by setting an other program, the first setted program can be changed. Chanching of the program is only possible by pushing the start button again for longer than 3 sec..

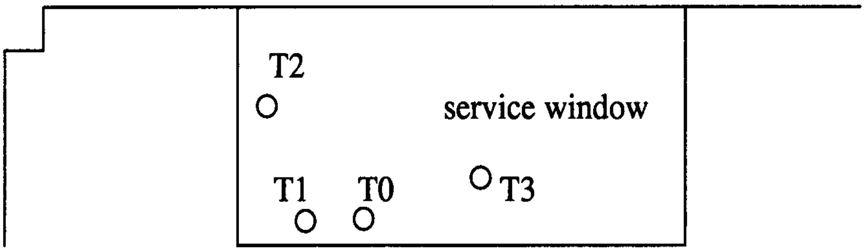
On appliances with seperate On-Off button the last used program is stored. That means if the customer wants to use the same program again he has only to press the On-button and the Start-button.

Text / Legend

Test points on the control board for Whirlpool and Ignis appliances

With these test points the function of the buttons and the rotary switch can be checked.
The test points are in the service window on the control board.
For the test fine clamps, cables and volt meter with high input resistance are necessary.
Before setting the clamps on the test points, switch off the appliance.

Test points: T0 = common line, T1 = analogue value, T2 = analogue value, T3 = digital signal



control board

Check: test point T0 to T1

Communication between Control board and Display board

pushed button	voltage	from	to
all off	appr. -6,19 V (DC)	control board	display board
ZW	appr. -3,69 V (DC)	display board	control board
delay start	appr. -2,33 V (DC)	display board	control board
ZW + delay start	appr. -1,85 V (DC)	display board	control board

Check: test point T0 to T2

Communication between Control board and User board

rotary switch	voltage	from	to
progr. a	appr. -1,54 V (DC)	user board	control board
progr. b	appr. -2,06 V (DC)	user board	control board
progr. c	appr. -2,57 V (DC)	user board	control board
progr. d	appr. -3,42 V (DC)	user board	control board
progr. e	appr. -3,96 V (DC)	user board	control board
progr. f	appr. -4,47 V (DC)	user board	control board
progr. g	appr. -5,00 V (DC)	user board	control board
start button	appr. 0,00 V (DC)	user board	control board

Check: test point T0 to T3

Communication between Control board and Display Board

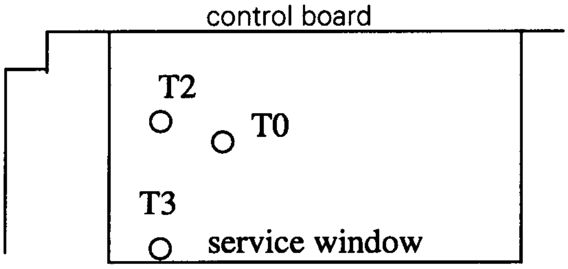
multiplexing appr. -3,18 V (DC)

How exact the data are, depends on the measure equipment.

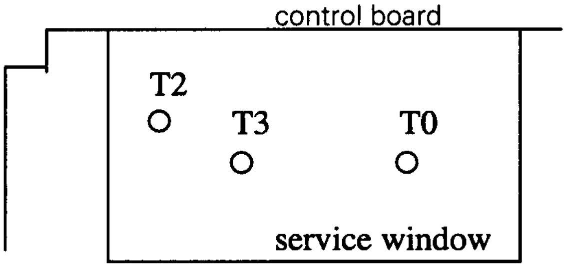
Text / Legend

Test points on the control board for Bauknecht appliances

With these test points the function of the buttons and the rotary switch can be checked.
The test points are in the service window on the control board.
For the test fine clamps, cables and volt meter with high input resistance are necessary.
Before setting the clamps on the test points, switch off the appliance.
Test points: T0 = common line T2 = analogue value T3 high = serial link
T3 low = digital signal



BK high



BK low

Check: test point T0 to T2 high range (see control board: BK-CB -H)

Communication between Control board and User board or Control- and Display board

pushed button or rotary switch	voltage	from	to
off	appr. -5,0 V (DC)	control board	user board
progr. a	appr. -1,0 V (DC)	user board	control board
progr. b	appr. -1,5 V (DC)	user board	control board
progr. c	appr. -2,0 V (DC)	user board	control board
progr. d (h)	appr. -2,5 V (DC)	user board	control board
progr. e (i)	appr. -3,0 V (DC)	user board	control board
progr. f (j)	appr. -3,5 V (DC)	user board	control board
progr. g (k)	appr. -4,0 V (DC)	user board	control board
start button	appr. -0,6 V (DC)	user board	control board
option- , gentle- or delay button	appr. -5,0 V (DC)	control board	display board

Check: test point T0 to T2 low range (see control board: BK-CB -L)

Communication between Control board and User board or Control- and Display board

pushed button or rotary switch	voltage	from	to
off	appr. -5,0 V (DC)	control board	user board
progr. a	appr. -1,0 V (DC)	user board	control board
progr. b	do not exist on low range		
progr. c	appr. -1,5 V (DC)	user board	control board
progr. d	appr. -2,0 V (DC)	user board	control board
progr. e	appr. -2,5 V (DC)	user board	control board
progr. f	appr. -3,0 V (DC)	user board	control board
progr. g	appr. -3,5 V (DC)	user board	control board
start button	appr. -0,6 V (DC)	user board	control board
eco-dry button	appr. -4,0 V (DC)	control board	display board
delay button	appr. -4,5 V (DC)	control board	display board

Check: test point T0 to T3 high range

no program running	-0,8/-1,0 V (DC)	control board	display board
program bio/eco running	-0,3/-0,8 V (DC)	control board	display board

Check: test point T0 to T3 low range

multiplex signal	-2,5 V (DC)	control board	display board

How exact the data are, depends on the measure equipment.